

## **REMARKS/ARGUMENTS**

### **1. Claim Objections and Claims Listings:**

Applicants is acknowledged that the claims listing was/is improper in that shows  
5 changes relative the 08 November 2006 claims listing that was not entered. Therefore, the  
“Listing of Claims” section in this document shows all amendments subsequent to the 30  
May 2006 claims listing, wherein all the matter and contents in current claims 1-28 are the  
same as that in the Response mailed Oct 15, 2007. However, since claims 29-30 have  
existed in the previous responses of Office action, the status identifiers of claims 29-30  
10 are shown as “Previous presented”, “Withdrawn”, and “Currently amended” in  
comparison with the 15 Oct. 2007 claims listing, rather than “New” in comparison with  
the 30 May 2006 claims listing. In addition, new claims 32-35 are added in this response  
and are marked with the status identifiers of “New”.

15 Regarding to claim objections, the Examiner points that claim 31 is objected to  
because the limitations of “... overlaps across the switching element” is considered  
incorrect. According to Examiner’s opinion, Fig.3E shows that 42A overlaps the  
extension portion of data line 34a. However, Applicants respectfully disagree with the  
rejection because a symbol “S” is clearly marked at the portion overlapping the first  
20 shielding layer 42A, which represents the source electrode of the switching element 38b  
in Fig.3E. Furthermore, in the amendment mailed 19 April 2007, the “amendments to the  
specification” section also describes clearly that *the first floating BM shielding layers 42A  
do overlap across the extension portion of the first data line 34a, which is a part of the  
source electrode S of the TFT 38b*. Nevertheless, in order to prevent further discussion  
25 and argument of whether the first shielding layer overlaps the “source/switch element” or  
the “extension portion of the data line”, Applicants have amended claim 31 to replace “the  
switching element” with “an extension portion of the first data line”.

Acceptance of the amendment of claims and claims listing are respectfully  
30 requested.

## 2. Rejections under 35 U.S.C. 103(a):

(1) Claims 1, 2, and 29:

Claims 1, 2, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over  
5 Applicant's admitted prior art (APA) in view of Song USPAT 6,788,356 for reasons of  
records. The Examiner is acknowledged that APA does not explicitly disclose that the  
width of the first shielding layer is larger than the width of the second shielding layer. The  
Examiner further mentions Song discloses an LCD where the width of the first light  
shielding layer is larger than the width of the second shielding layer (col.5, lines 25-62,  
10 and col.6, lines 20-27).

### Response:

According to the amended claim 1, it clearly limits that *the first shielding layer 42A  
adjacent to the switching element 38 and the first data line 34a has a width wider than the  
15 width of the second shielding layer 42B near the second data line 34b (Figs.6-7)*, which is  
not shown in APA. *In short, claim 1 has a characteristic that the first and second  
shielding layers have asymmetrical widths (para. [0054], lines 17-21)*. Accordingly, the  
first shielding layer 42A may be adjacent to an LC reverse region, and the second  
shielding layer 42B may be adjacent to an LC non-reverse region, such that the light  
20 leakage in the LC reverse region is reduced because the first shielding layer 42A is wider  
while the width of the second shielding layer 42B is narrower so as to improve the  
opening ratio of the pixel.

Referring to Song's reference, he only teaches how to determine a distance (b) of an  
25 overlapping portion of the pixel electrodes 82 and the black matrix 94 and a distance (c)  
of the pixel electrode 82 and the data line 62 (Figs.1-2 and col.5, 24-32). Therefore, *Song  
only discloses that the black matrix 94 and the data line 62 may have different width, but  
never teaches or suggest disposing two shielding layers with different or asymmetrical  
widths*. Since Song and APA never disclose all the limitations in claim 1 and cannot  
30 provide the same advantage of reducing the light leakage in the LC reverse region, which

is provided by this application, claim 1 should be patentable. Reconsideration of claim 1 is politely requested.

Claims 2 and 29 are dependent upon claim 1, and therefore they should be allowable  
5 if claim 1 is patentable. Reconsideration of claims 2 and 29 are hereby requested.

(2) Claims 3, 4, and 31:

Claims 3, 4, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over  
APA in view of Song, as applied to claim 1 above, and further in view of Okada et al.,  
10 (Okada), USPAT 6,633,360 for reasons of record.

Response:

Regarding claims 3 and 4, they limit that the *first shielding layer or the second  
shielding layer **directly connects** to the first gate line*. Therefore, *the first or second  
15 shielding layer directly connecting to the first gate line provides advantages of serving as  
an element of a complementary capacitor, serving as a part of a repairing line, and  
reducing the coupling effect between the data line and the pixel electrode* (para. [0054]).  
However, Okada only mentions that his light shield film is *electrically connected* to either  
the auxiliary capacitor line or the scanning line for preventing the “block separation”  
20 problem. *Okada never teaches or mentions the connection way between the light shield  
film and the auxiliary capacitor line or the scanning line, nor suggests making the light  
shield film **directly connect** to the scanning line for providing the above-mentioned  
functionalities and advantages of this application*. Therefore, claims 3-4 should be  
allowable with consideration to Okada’s application.

25

Regarding the amended claim 31, it describes that the first shielding layer 42A  
partially overlaps an extension portion S of the data line 34a, as shown in Fig.3E.  
According to the rejection reasons on pages 7-8 of the Office action, the Examiner  
mentions, “it would have been obvious to one of ordinary skill in the art at the time of the  
30 invention was made to modify the display device of the APA by directly connecting the

first light-shielding film with the first gate line to prevent block separation, as per the teachings of Okada [this would result in overlapping the extension portion of the data line near the switching element or TFT as in Figure 3E].” However, since *Okada and APA do not teach disposing a light shielding film which directly connects to the scanning line, it goes without saying they disclose making a light shielding film directly connecting the scanning line also overlap an extension portion of data line at the same time.* For example, referring to Fig.10 of Okada, even the light shield film 13 extends upward to connect to the upper gate line 122, it does not overlap any extension portion of the source line (data line) 124. Furthermore, even the light shield film 13 extends downward to electrically connect to the lower gate line 122, it may still not overlap any extension portion of the data line 124. It is because that when the light shield film 13 connects to the gate (an extension portion of the gate line 122), it is electrically connected to the gate line 122 but does not overlap the switching element 125 or any extension portion of the data line 124 at all. More even, Okada never shows there is an extension portion of the data line 124. Since not every data line of any LCD has an extension portion near a shielding film, the inference of the rejection reason is not reasonable in a hindsight way. *As a result, the combination of APA and Okada never shows an LCD with a shielding layer that is electrically connected to the gate line and overlaps the extension portion of the data line at the same time.* Therefore, the combination of APA and Okada does not disclose the contents of claim 31.

Concerning obviousness type rejections, MPEP section 2142 states, “The tendency to resort to ‘hindsight’ based upon applicant’s disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.” Additionally, MPEP section 2143.01 states, “Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art.” Accordingly, the applicants argue that the

rejection under 35 U.S.C. 103(a) by combining APA and Okada is made in hindsight, and assert claims 3, 4 and 31 is patentable.

5 In addition, since claims 3-4 and 31 are dependent upon claim 1, they should be allowable if claim 1 is allowable. Reconsideration of claims 3-4 and 31 is respectfully requested.

(3) Claims 5-6:

10 Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Song and further in view of Watanabe et al., USPAT 5,859,677. Reasons of rejection are cited on pages 8-9 of above-mentioned Office Action.

Response:

15 Claims 5-6 are dependent upon claim 1, thus they should be allowable if claim 1 is allowable. Reconsideration of claims 5-6 is hereby requested.

(4) Claim 7:

20 Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA in view of Song for reasons of record.

Response:

25 Claim 7 of this application points that a repair line 54 is situated across the first and second shielding layers 42A and 42B, as shown in Fig.5. Therefore, the first and second shielding layers 42A, 42B provide an operative path for repairing a broken gate line.

Referring to Fig.1 of Song's application, he mentions BM 94 and BM 92 may serve as repair lines. Song describes, "in the case where area A of the leftmost data line 62 is severed, a laser is irradiated on areas B of the black matrix 90 on both sides of area A such that the corresponding vertical portion 94 of the black matrix 90 shorts with the data line 30 62, thereby repairing the disconnected data line 62 (col.6, lines 44-48)." Accordingly, the

vertical BM 94 may be used for repairing the data line 62, while the horizontal BM 92 may be used for repairing the gate line 22. In comparison with claim 7 of this application, *even though the vertical BM 94 and the horizontal BM 92 of Song's are considered as the shielding layers and repairing line of the gate line in claim 7 of this application*  
5 *respectfully, the horizontal BM 92 serving as a repairing line still does not cross the vertical BM 94 at all.* Accordingly, the combination of APA and Song does not disclose the limitations of claim 7 of this application. Applicants believe that claim 7 should be patentable. Reconsideration of claim 7 is respectfully requested.

10 **3. New Claims:**

Claims 32-35 are added through this amendment, which are fully supported by the figures and specification (para. [0032], [0038], [0043], [0054], Fig.5). No new matters are introduced. Acceptance of new claims 32-35 is politely requested.

15 Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Sincerely yours,



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20 Winston Hsu, Patent Agent No. 41,526  
P.O. BOX 506, Merrifield, VA 22116, U.S.A.  
Voice Mail: 302-729-1562  
Facsimile: 806-498-6673  
e-mail : winstonhsu@naipo.com

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